

AMENDMENTS TO THE CLAIMS

In the claims:

Claims 1-17 (canceled)

18. (previously presented): A process to produce a purified carboxylic acid slurry composition said process comprising:
- (a) removing impurities from a crude carboxylic acid slurry composition in a solid liquid displacement zone to form a slurry composition;
 - (b) oxidizing said slurry composition at a temperature of about 190°C to about 280°C in a staged oxidation zone to form a staged oxidation composition;
 - (c) crystallizing said staged oxidation composition in a crystallization zone to form a crystallized composition; and
 - (d) removing in a subsequent solid liquid displacement zone impurities from said crystallized composition to form said purified carboxylic acid slurry composition; wherein said impurities comprise 4-carboxybenzaldehyde, trimellitic acid, or 2,6-dicarboxyfluorenone; and wherein said subsequent solid liquid displacement zone comprises at least one solid liquid separator that is operated at a temperature between 110°C to 200°C.
19. (previously presented): A process to produce a purified carboxylic acid slurry composition said process comprising:
- (a) removing impurities from a crude carboxylic acid slurry composition in a solid liquid displacement zone to form a slurry composition;
 - (b) oxidizing said slurry composition at a temperature of about 190°C to about 280°C in a staged oxidation zone to form a staged oxidation composition;
 - (c) removing in a subsequent solid liquid displacement zone impurities from said staged oxidation composition to form a purified staged oxidation composition; wherein said impurities comprise 4-carboxybenzaldehyde, trimellitic acid, or 2,6-dicarboxyfluorenone; and wherein said subsequent solid liquid displacement zone comprises at least one solid liquid separator that is operated at a temperature between 110°C to 200°C; and

- (d) crystallizing in a crystallization zone said purified staged oxidation composition to form said purified carboxylic acid slurry composition.
20. (previously presented): The process according to claim 18 or 19 wherein said solid liquid displacement zone comprises at least one solid liquid separator that is operated at a temperature between about 50°C to about 200°C.
21. (canceled)
22. (original): The process according to claim 18 or 19 wherein said solid liquid displacement zone comprises a solid liquid separator selected from the group consisting of a belt filter, a rotary vacuum filter and a rotary disk pack centrifuge.
23. (previously presented): The process according to claim 18 or 19 wherein said purified carboxylic acid slurry composition is formed without a process for separating impurities from oxidation solvent or hydrogenation step.
24. (previously presented): The process according to claim 18 or 19 wherein said purified carboxylic acid slurry composition has a b^* of less than about 3.5.
25. (previously presented): The process according to claim 18 or 19 further comprising the step of flash cooling said purified carboxylic acid slurry composition to form a cooled purified slurry composition.
26. (canceled)
27. (currently amended): A process to produce a purified carboxylic acid slurry composition comprising:
- (a) removing in a solid liquid displacement zone impurities from a crude carboxylic acid slurry composition to form a slurry composition; wherein said crude carboxylic acid slurry composition comprises terephthalic acid, catalyst, acetic acid, and impurities that is withdrawn at a temperature between about 140°C and about 170°C from the oxidation of paraxylene in a primary oxidation zone; wherein said catalyst comprises cobalt, manganese or bromine compounds;
- (b) oxidizing said slurry composition in a staged oxidation zone to form a staged oxidation composition; wherein said oxidizing is conducted at a temperature between about 190°C to about 280°C; and wherein said oxidizing is

at a higher temperature in said staged oxidation zone than in said primary oxidation zone;

(c) crystallizing said staged oxidation composition in a crystallization zone to form a crystallized composition; and

(d) removing in a subsequent solid liquid displacement zone impurities from said crystallized composition to form said purified carboxylic acid slurry composition; wherein said subsequent solid liquid displacement zone comprises at least one solid liquid separator that is operated at a temperature between ~~about~~ 110°C to ~~about~~ 200°C; and wherein said impurities comprise 4-carboxybenzaldehyde, trimellitic acid, or 2,6-dicarboxyfluorenone.

28. (previously presented): The process according to claim 27 further comprising the step of flash cooling said purified carboxylic acid slurry composition to form a cooled purified slurry composition.
29. (previously presented): The process according to claims 18, 19 or 27 further comprising decolorizing in a reactor zone said purified carboxylic acid slurry composition or a carboxylic acid that has been esterified.
30. (previously presented): The process according to claim 29 wherein said decolorizing is accomplished by reacting said purified crude carboxylic acid slurry composition with hydrogen in the presence of a catalyst in a reactor zone to produce a decolorized carboxylic acid slurry composition; wherein said catalyst comprises a group VIII metal.
31. (previously presented): The process according to claim 27 wherein said solid liquid displacement zone comprises at least one solid liquid separator that is operated at a temperature between about 50°C to about 200°C.
32. (previously presented): A process to produce a purified carboxylic acid slurry composition said process comprising:
 - (a) oxidizing an aromatic feedstock at a temperature of about 110°C to about 200°C in a primary oxidation zone to form a crude carboxylic acid slurry composition;

- (b) removing impurities from said crude carboxylic acid slurry composition in a solid liquid displacement zone to form a slurry composition;
 - (c) oxidizing said slurry composition in a staged oxidation zone to form a staged oxidation composition;
 - (d) removing in a subsequent solid liquid displacement zone impurities from said staged oxidation composition to form a purified staged oxidation composition; wherein said impurities comprise 4-carboxybenzaldehyde, trimellitic acid, or 2,6-dicarboxyfluorenone; and wherein said subsequent solid liquid displacement zone comprises at least one solid liquid separator that is operated at a temperature between 110°C to 200°C; and
 - (e) crystallizing in a crystallization zone said purified staged oxidation composition to form said purified carboxylic acid slurry composition.
33. (previously presented): A process to produce a purified carboxylic acid slurry composition said process comprising:
- (a) oxidizing an aromatic feedstock at a temperature of about 110°C to about 200°C in a primary oxidation zone to form a crude carboxylic acid slurry composition;
 - (b) removing impurities from said crude carboxylic acid slurry composition in a solid liquid displacement zone to form a slurry composition;
 - (c) oxidizing said slurry composition in a staged oxidation zone to form a staged oxidation composition;
 - (d) crystallizing said staged oxidation composition in a crystallization zone to form a crystallized composition; and
 - (e) removing in a subsequent solid liquid displacement zone impurities from said crystallized composition to form said purified carboxylic acid slurry composition; wherein said impurities comprise 4-carboxybenzaldehyde, trimellitic acid, or 2,6-dicarboxyfluorenone; and wherein said subsequent solid liquid displacement zone comprises at least one solid liquid separator that is operated at a temperature between 110°C to 200°C.

34. (previously presented): The process according to claim 32 or 33 wherein said solid liquid displacement zone comprises a solid liquid separator that is operated at a temperature between about 50°C to about 200°C.
35. (previously presented): The process according to claim 32 or 33 wherein said solid liquid displacement zone comprises a solid liquid separator selected from the group consisting of a belt filter, a rotary vacuum filter and a rotary disk pack centrifuge.
36. (previously presented): The process according to claim 32 or 33 wherein said purified slurry carboxylic acid composition is formed without a process for separating impurities from oxidation solvent or hydrogenation step.
37. (previously presented): The process according to claim 32 or 33 wherein said purified carboxylic acid slurry composition has a b^* of less than about 3.5.
38. (previously presented): The process according to claim 32 or 33 further comprising the step of flash cooling said purified carboxylic acid slurry composition to form a cooled purified slurry composition.
39. (previously presented): The process according to claims 18, 19, 27, 32 or 33 wherein said crude carboxylic acid slurry composition comprises terephthalic acid.